

REMARKS

Claims 1-29 are presently pending in the application. Claims 1, 3, 9, 10, 11, 13, 21, 28 and 29 have been amended. No new matter has been added and support for the amendments to the claims can be found in the specification and drawings.

In view of the claim amendments and arguments for patentability presented below, Applicants respectfully submit that the application is in condition for allowance.

Objections to the Drawings

Applicants have attached a marked up replacement sheet of Fig. 1 containing proposed drawing corrections in red ink. Applicants will submit formal drawings containing the proposed changes upon acceptance by the Examiner.

Claim Rejections 35 U.S.C. §102(e) & 103

Claims 1-3, 6-9, 11-13, 16-19, 21-22 and 25-28 presently stand rejected as being anticipated by Boden U.S. Publ. No. 2003/0145104 ("Boden"). Applicants traverse this rejection and respectfully submit that Boden fails to teach or suggest the claimed invention.

The Present Invention

In accordance with an aspect of the invention, a regional access network connects subscribers to a plurality of Internet Service Providers (ISPs) via a plurality of point of connect locations on the regional access network. A virtual network is constructed for each ISP that spans all point of connect locations in the regional access network. When an incoming packet is received from a subscriber, the edge router receiving the packet either forwards the packet within the regional network if the packet destination address matches a local address in the regional access network, or if the destination address is not a local address in the regional access network,

then a policy decision is employed to map the packet into the virtual network corresponding to the ISP for that subscriber, such that a route is defined through the regional access network to the ISP for the subscriber.

In this regard, representative claim 1 (as amended) calls for a method of forwarding data traffic in a packet-switched regional access network, the packet-switched regional access network further comprising a plurality of virtual networks defined thereon, comprising the steps of:

(a) receiving data traffic with a destination address;

(b) *where the destination address is a local address in the packet switched regional access network, forwarding the data traffic using destination-based routing; and*

(c) *where the destination address is not a local address in the packet-switched network, policy filtering the data traffic and, based on the policy filtering, mapping the data traffic to one of the plurality of virtual networks, wherein the packet switched regional access network is connected to a plurality of service networks and wherein one of the plurality of virtual networks defines one or more routes for the data traffic through the packet switched regional access network to one of the plurality of service networks. Emphasis added.*

Argument

Boden is directed to a system for a local VPN gateway that supports multiple overlapping VPN connections to remote gateways within a company network. As described in para. [0040]:

Referring to Fig. 5, a local VPN gateway A 52 of the preferred embodiment of the invention comprises tables, databases and pools for tunnel identification in a system characterized by remote networks having *overlapping addresses*. Included in gateway 52 are VPN NAT pool 60, VPN address bind table 58, filter rules table 72, and security association databases 74. Emphasis added.

In Boden, the VPN gateway 52 determines the appropriate VPN connection over which to direct a packet to another VPN gateway when there are *overlapping remote networks* with overlapping addresses. In this regard, the proper VPN connection is selected in accordance with the process

described in paras. [0050-0051]. However, Boden is not concerned with mapping traffic through multiple virtual networks for the purpose of defining a separate route through a regional access network *for each service network* coupled to the regional access network.

The present invention is not concerned with overlapping networks. Here, each service network allocates a different source address to its subscribers and this is used as a policy decision to route packets through the regional access network to the appropriate service network. In this regard, Claim 1 has been amended to incorporate the limitations of claim 2, and to emphasize that policy filtering is employed to map the data traffic to one of a plurality of virtual networks associated with a service provider connected to the regional access network. In this manner, the data traffic is directed through the regional access network via the virtual network corresponding to the service network connected to the regional access network. It is submitted that this practice is neither taught nor suggested in Boden.

Furthermore, Boden does not teach or suggest the step of “where the destination address is a local address in the packet-switched regional access network, forwarding the data traffic using destination-based routing.” The Examiner cites to paras. [0041] and [0049] for disclosing this step; however, para. [0049] stands for the proposition that “VPN source-in NAT is applied to the inbound traffic” directed to the local VPN gateway 52. Para. [0049] does not teach destination based routing outside of the VPN for subscribers to the same service network. In the present invention, inbound traffic to the regional access network from a service network that is destined for a subscriber to the service network is routed *outside of the virtual network* corresponding to the outbound path(s) coupling to the respective service network, and thus need not be mapped to a virtual network. This step is thus distinguishable from Boden.

Independent claims 11 and 21 have been amended to include similar limitations and it is believed that these claims are patentable over Boden for the same reasons as claim 1. In as much as the claims dependent on claims 1, 11 and 21 add additional limitations, it is further believed that these claims are patentable for at least the same reasons as the independent claims.

Claims 4-5, 10, 14-15, 20, 23-24 and 29 stand rejected under Section 103 as being unpatentable over Boden in view of Daruwalla et al. U.S Patent No. 6,693,878 ("Daruwalla").


While Daruwalla discloses Multiprotocol Label Switching (MPLS) for VPN networks, Daruwalla fails to teach or suggest the practice of mapping data traffic to one of a plurality of virtual networks to direct the traffic through a regional access network to a particular service network connected to the regional access network. Accordingly, it is respectfully submitted that Daruwalla fails to remedy the deficiencies in the disclosure of Boden.

Conclusion

In view of the foregoing, Applicants respectfully submit that claims 1-29 are now in condition for allowance, and earnestly request that the Examiner issue a Notice of Allowance.

Should the Examiner have any questions regarding the present case, the Examiner should not hesitate in contacting the undersigned at the number provided below.

Respectfully submitted,

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